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HAYNES AND BOONE, LLP			BEHARRY, NOEL, R	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/537,279	<b>Applicant(s)</b> ISHIDA ET AL.
	<b>Examiner</b> NOEL BEHARRY	<b>Art Unit</b> 2446

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 19 January 2010.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 4-14,21,22 and 25-46 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 4-14,21,22 and 25-46 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 21 November 2005 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/19/2010 has been entered. Claims 4, 5, 6, 8, 9, 11, 21, 22, 25, 26, 28, 29, and 31 have been amended. Claims 4-14, 21, 22, and 25-46 are subject to examination.

***Response to Arguments***

2. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 4, 5, 21 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Huitema et al. (Huitema hereafter)** (US 2002/0073215 A1) in view of **Burgess et al. (Burgess hereafter)** (US 2001/0012296 A1).

**Regarding claims 4 and 21, Huitema teaches,**

an Internet connection system, comprising:

a relay device (**210 of Fig. 2**) connected to a client device (**200 of Fig. 2**) and provided in a first network, the first network communicated in a first protocol (**IPv6**);  
(**Par. 0008-0013**) and

a server (**410 of Fig. 3**) connected to the relay device through a second network in a second protocol (**IPv4**), (**Par. 0032**)

wherein the relay device (**210 of Fig. 2**) comprises:

a client device global address storage section for storing a global address of the client device in the first protocol; (**210 of Fig. 2**) [**Routers stores the address of its clients and servers in a routing table**]

a server address storage section for storing a global address of the server in the second protocol; (**210 of Fig. 2**) [**Routers stores the address of its clients and server in the a routing table**]

a first routing device for routing a connection from the client device through the server based on the global address of the server stored in the server address storage section; (**210 of Fig. 2**) [**Routers routes a connection based on the address stored in the routing table**] and

a first packet processing device for encapsulating/decapsulating packets, the packets being in the first protocol, using the second protocol to thereby establish a tunneling connection with the server in the first protocol, (**Par. 0008-0013**)

and

wherein the server (**410 of Fig. 3**) comprises:

a second packet processing device for encapsulating/decapsulating packets, the packets being in the first protocol, using the second protocol to thereby establish a tunneling connection with the relay device; (**Par. 0032**)

a client device global address management device for managing the global address of the client device in the first protocol, the client device connected to the relay device, in association with a global address of the relay device in the second protocol; (**Par. 0032**) and

a second routing device for routing a connection to the relay device based on the global address of the client device managed by the client device global address management device. (**Par. 0032**)

**Huitema** fails to explicitly teach,

a model identification section for determining if the client device is of a predetermined manufacturer model.

However, **Burgess** teaches,

a model identification section for determining if the client device is of a predetermined manufacturer model. (**forwarding of a data packet is prevented unless a media access control address in the packet matches an address in the table, Par. 0011**)

It would have been obvious to one of ordinary skill in the art at the time of the invention to create the invention of **Huitema** to include the above recited limitations as taught by **Burgess** in order to selectively control access of a device (**Par. 0010-0011**).

**Regarding claims 5 and 22, Huitema – Burgess** teaches,

wherein the server further comprises a communication session disconnection section for halting packet transmissions of packets that the server receives if the model identification section determines that the client device or the relay device is not of the predetermined model. (**Burgess; more particularly the forwarding of a packet may be prevented unless either the specific source address or the specific destination address in the packet matches a permitted media access control address in the table, Par. 0011**)

5. **Claims 6, 25, 26, 30, 31, 37-40, 43 and 45** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Huitema - Burgess** in view of **Hovell et al. (Hovell hereafter)** (US 7,188,191 B1).

**Regarding claim 6, Huitema - Burgess** fails to explicitly teach,

wherein the server further comprises a command conversion section for converting a command to be sent to the client device to a command in a predetermined manufacturer model specific format to control the client device based on results from the model identification section.

However, **Hovell** teaches,

wherein the server further comprises a command conversion section for converting a command to be sent to the client device to a command in a predetermined

manufacturer model specific format to control the client device based on results from the model identification section. (**Col 7, Line 63 – Col 8, Line 13**)

*Hovell teaches in the above cited portion that it is determined if the packet is IPv4 or IPv6. Depending on the version then the IP headers has to be converted in order to be sent to the device. Since to control the client device is packets being sent over the network, Examiner has interpreted this as the IP packets being translated to be accepted by the specified device.*

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Huitema - Burgess** to include the above recited limitations as taught by **Hovell** in order to conform to the specification known as Network Address Translation-Protocol Translation (NAT-PT) (**Col 8, Lines 4-6**).

**Regarding claim 25, Huitema - Burgess** teaches,

a server (**Huitema; 410 of Fig. 3**), used in an Internet connection system which comprises:

a relay device (**Huitema; 210 of Fig. 2**) provided in a first network; and the server connected to a client device through the relay device and the Internet, the client device connected to the first network, (**Huitema; Par. 0032**) comprising:

a client device address management device for managing an address of the client device connected to the relay device in association with an address of the relay device; (**Huitema; Par. 0032**)

a routing device for routing a connection, the connection from the Internet to the

client device, to the relay device connected to the client device based on the address of the client device managed at the client device address management device; (**Huitema**;

**Par. 0032)**

a model identification section for determining if the client device is of a predetermined manufacturer model and/or the relay device is of a predetermined manufacturer model; (**Burgess**; **forwarding of a data packet is prevented unless a media access control address in the packet matches an address in the table, Par. 0011)**

**Huitema - Burgess** fails to explicitly teach,  
a command conversion section for converting a command to be sent to the client device to a command in a predetermined format to control the client device based on results from the model identification section.

However, **Hovell** teaches,  
a command conversion section for converting a command to be sent to the client device to a command in a predetermined manufacturer model specific format to control the client device based on results from the model identification section. (**Huitema; Col 7, Line 63 – Col 8, Line 13**)

*Hovell teaches in the above cited portion that it is determined if the packet is IPv4 or IPv6. Depending on the version then the IP headers has to be converted in order to be sent to the device. Since to control the client device is packets being sent over the network, Examiner has interpreted this as the IP packets being translated to be accepted by the specified device.*

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Huitema - Burgess** to include the above recited limitations as taught by **Hovell** in order to conform to the specification known as Network Address Translation-Protocol Translation (NAT-PT) (**Col 8, Lines 4-6**).

**Regarding claim 26, Huitema – Burgess – Hovell** teaches, further comprising:

a communication session disconnection section for halting of packets that the server receives if the model identification section determines that the client device or the relay device is not of the predetermined manufacturer model. (**Burgess; more particularly the forwarding of a packet may be prevented unless either the specific source address or the specific destination address in the packet matches a permitted media access control address in the table, Par. 0011**)

**Regarding claim 30, Huitema – Burgess – Hovell** teaches, further comprising:

a state information obtaining section for obtaining at least one of location information of the client device. (**Huitema; 100 of Fig. 1**) [*Fig. 1 teaches wherein the IP packet contains information about the client device such as location information (source address).*]

**Regarding claim 31, Huitema – Burgess – Hovell** teaches,

wherein the state information obtaining section obtains at least one the location information of the client device using a method according to a manufacturer model of

the client device. (**Huitema; 100 of Fig. 1**) [*Fig. 1 teaches wherein the IP packet contains information about the client device such as location information (source address).]*

**Regarding claim 37, Huitema – Burgess – Hovell** teaches,

wherein the relay device is provided in the client device. (**Huitema; Par. 0036**)

**Regarding claim 38, Huitema – Burgess – Hovell** teaches, further comprising:

    a packet processing device for encapsulating/decapsulating packets, the packets being in a first protocol, using a second protocol to thereby establish a tunneling connection with the relay device; (**Huitema; Par. 0032**)

    wherein said client device address management device a global address of the client device in the first protocol, the client device connected to the relay device, in association with a global address of the relay device in the second protocol; (**Huitema; Par. 0032**) and

    a routing device for routing a connection to the relay device based on the global address of the client device managed by the client device address management device. (**Huitema; Par. 0032**)

**Regarding claim 39, Huitema – Burgess – Hovell** teaches,

wherein the first and second protocols are different. (**Huitema; Par. 0025**)

**Regarding claim 40, Huitema – Burgess – Hovell teaches,**

wherein the first and second protocols are the same. (**Huitema; Par. 0026**)

**Regarding claim 43, Huitema - Burgess** fails to explicitly teach, further comprising:

a tunneling connection information management device for managing information of the tunneling connection between the relay device and the server, wherein

the tunneling connection information management device sends a notification to the relay device of the global address of the server in the second protocol, and sends a notification to the server of the global address of the relay device in the second protocol and of an entirety or part of the global address of the client device in the first protocol.

However, **Hovell** teaches, further comprising:

a tunneling connection information management device for managing information of the tunneling connection between the relay device and the server, wherein

the tunneling connection information management device sends a notification to the relay device of the global address of the server in the second protocol, and sends a notification to the server of the global address of the relay device in the second protocol and of an entirety or part of the global address of the client device in the first protocol.

**(Col 7, Line 52 – Col 8 Line 40)**

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Huitema** to include the above recited limitations as taught by **Hovell** in order to allow the source host to know the address of the destination host.

**Regarding claim 45, Huitema – Burgess – Hovell** teaches, further comprising:

    a filtering processing device for filtering communications to/from the client device according to predetermined rules. (**Huitema; 410 of Fig. 3**)

6.     **Claims 7, 12, and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Huitema – Burgess** in view of **Simpson** (US 6,405,310 B1).

**Regarding claim 7, Huitema - Burgess** fails to explicitly teach,

    wherein the server further comprises a client device control section for controlling the client device based on results from the model identification section.

    However, **Simpson** teaches,

    wherein the server further comprises a client device control section for controlling the client device based on results from the model identification section. (**Simpson; Abstract**)

    It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Huitema - Burgess** to include the above recited limitations as taught by **Simpson** in order to manage units in a computer network (**Abstract**).

**Regarding claims 12, Huitema - Burgess** fails to explicitly teach,

    wherein the server further comprises a search section for searching for the client

device or the relay device based on at least one of the global address, the operation state, the usage state, and the location information of the client device or the relay device.

However, **Simpson** teaches,

wherein the server further comprises a search section for searching for the client device based on at least one of the global address of the client device. (**Col 6, Lines 43-62**)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Huitema - Burgess** to include the above recited limitations as taught by **Simpson** in order to discover and locate all devices connected to a network (**Col 6, Lines 43-62**).

**Regarding claim 14, Huitema – Burgess - Simpson** teaches,

wherein the server further comprises a client device control section for controlling the client device, which selects a specific client device from the list to thereby activate a control program for the specific client device. (**Simpson; Abstract**)

7. **Claims 8-11 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Huitema – Burgess** in view of **Ramachandran et al.** (**Ramachandran** hereafter) (US 7,360,245 B1).

**Regarding claim 8, Huitema – Burgess** fails to explicitly teach, further comprising:

a network type identification section for determining if an environment of the first network connected with the client device is of a predetermined network environment type.

However, **Ramachandran** teaches,

a network type identification section for determining if an environment of the first network connected with the client device is of a predetermined network environment type. **(decide whether or not the received IP packet's source IP address lies within the subnet IP address space of the directly connected network of the receiving interface, Col 13, Lines 4-15)**

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Huitema - Burgess** to include the above recited limitations as taught by **Ramachandran** in order to prevent the network form being used intentionally or unintentionally as a launching pad (intermediary) of a DDOS attack **(Col 13, Lines 23-24)**.

**Regarding claim 9, Huitema – Burgess - Ramachandran** teaches,

wherein the server further comprises a communication session disconnection section for halting transmissions of packets that the server receives if a private network environment connected with the client device is determined to be not of the predetermined network environment type. **(prevents source spoofed packet (with a source IP address lying outside the private network's IP address space, i.e., victim's address) from getting out of the private network, Col 13, Lines 19-21)**

**Regarding claim 10, Huitema – Burgess - Ramachandran teaches,**

wherein the server further comprises a state information obtaining section for obtaining at least one of location information of the client device. (**Huitema; 100 of Fig. 1**) *[Fig. 1 teaches wherein the IP packet contains information about the client device such as location information (source address).]*

**Regarding claim 11, Huitema – Burgess - Ramachandran teaches,**

wherein the state information obtaining section obtains at least one of the location information of the client device using a method according to a manufacturer model (**Burgess; Par. 0011**) of the client device. (**Huitema; 100 of Fig. 1**) *[Fig. 1 teaches wherein the IP packet contains information about the client device such as location information (source address).]*

**Regarding claim 22, Huitema – Burgess - Ramachandran teaches,**

wherein the relay device further comprises a communication session disconnection section for disconnecting communication sessions if the model identification section determines that the client device is not of the predetermined model. (**Burgess; forwarding of a data packet is prevented unless a media access control address in the packet matches an address in the table, Par. 0011**)

8. **Claims 13, 34 and 35** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Huitema - Burgess – Simpson** in view of **Tarr** (US 6,978,314 B2).

**Regarding claims 13, 34, and 35, Huitema - Burgess – Simpson** fails to explicitly teach,

wherein the search section comprises a means for displaying a list of the client devices connected to each of the relay devices.

However, **Tarr** teaches,

wherein the search section comprises a means for displaying a list of the client devices connected to each of the relay devices. **(Abstract)**

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Huitema - Burgess – Simpson** to include the above recited limitations as taught by **Tarr** in order to improve the device search capabilities of a network management tool **(Col 2, Lines 25-24)**.

9. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Huitema – Hovell** in view of **Tarr**.

**Regarding claim 27, Huitema – Hovell** fails to explicitly teach,

wherein the client device includes a peripheral device which is communicable with the relay device but cannot by itself connect to the Internet.

However, **Tarr** teaches,

wherein the client device includes a peripheral device which is communicable with the relay device but cannot by itself connect to the Internet. (**printer; Col 3, Lines 21-34**)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Huitema – Hovell** to include the above recited limitations as taught by **Tarr** in order to be able to connect other devices that can be connected to the network to allow other users on the network to use the device (**Col 3, Lines 21-34**).

10. **Claims 28 and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Huitema – Burgess - Hovell** in view of **Ramachandran**.

**Regarding claim 28, Huitema – Burgess – Hovell** fails to explicitly teach, further comprising:

a network type identification section for determining if an environment of the first network connected with the client device is of a predetermined network environment type.

However, **Ramachandran** teaches, further comprising:

a network type identification section for determining if an environment of the first network connected with the client device is of a predetermined network environment type. (**decide whether or not the received IP packet's source IP address lies within the subnet IP address space of the directly connected network of the receiving**

**interface, Col 13, Lines 4-15)**

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Huitema – Burgess - Hovell** to include the above recited limitations as taught by **Ramachandran** in order to prevent the network form being used intentionally or unintentionally as a launching pad (intermediary) of a DDOS attack (**Col 13, Lines 23-24**).

**Regarding claim 29, Huitema – Burgess – Hovell** teaches, further comprising:

a communication session disconnection section for disconnecting communication sessions or halting transmissions of packets that the server receives if an environment of said first network connected to the client device or the relay device is determined not of the predetermined network environment type. (**prevents source spoofed packet (with a source IP address lying outside the private network's IP address space, i.e., victim's address) from getting out of the private network, Col 13, Lines 19-21**)

11. **Claims 32, 33, 36, and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Huitema – Burgess - Hovell** in view of **Simpson**.

**Regarding claim 32, Huitema – Burgess** fails to explicitly teach, further comprising:

a client device control section for controlling the client device,  
wherein the client device control section comprises a means for displaying to a user at least one of the operation state, the usage state, and the location information of

the client device.

However, **Simpson** teaches, further comprising:

a client device control section for controlling the client device, (**Simpson**;

**Abstract)**

wherein the client device control section comprises a means for displaying to a user at least one of the operation state, the usage state, and the location information of the client device. (**Simpson; Abstract**)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Huitema – Burgess - Hovell** to include the above recited limitations as taught by **Simpson** in order to manage units in a computer network (**Abstract**).

**Regarding claim 33 and 41, Huitema – Burgess - Hovell – Simpson teaches,**  
a search section for searching for the client device or the relay device based on at least one of the address, the operation state, the usage state, and the location information of the client device or the relay device. (**Simpson; Col 6, Lines 43-62**)

**Regarding claim 36, Huitema – Burgess - Hovell – Simpson teaches, further comprising:**

a client device control section for controlling the client device, wherein the client device control section selects a specific client device from the list to thereby activate a control program for the specific client device. (**Simpson; Abstract**)

12. **Claim 42** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Huitema – Burgess – Hovell - Simpson** in view of **Zenchelsky** et al. (**Zenchelsky** hereafter) (US 6,233,686 B1)

**Regarding claim 42, Huitema – Burgess – Hovell - Simpson** fails to explicitly teach, a connection requester authentication section for authenticating a user who requested a connection to the client device to thereby permit or deny the connection to the client device.

However, **Zenchelsky** teaches, a connection requester authentication section for authenticating a user who requested a connection to the client device to thereby permit or deny the connection to the client device. (**Fig. 1 & Col 2, Lines 5-25**)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Huitema – Burgess – Hovell - Simpson** to include the above recited limitations as taught by **Zenchelsky** in order to implement security policy to restrict access to a network to a predetermined set of users. (**Col 2, Lines 5-25**)

13. **Claims 44 and 46** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Huitema – Burgess – Hovell** in view of **Zenchelsky**.

**Regarding claim 44, Huitema – Burgess – Hovell** fails to explicitly teach,

the tunneling connection information management device authenticates the relay device or the server to obtain an authentication result and, if the authentication result is positive, sends the notification.

However, **Zenchelsky** teaches,

the tunneling connection information management device authenticates the relay device or the server to obtain an authentication result and, if the authentication result is positive, sends the notification. (**Fig. 1 & Col 2, Lines 5-25**)

It would have been obvious to one of ordinary skilled in the art at the time of the invention to create the invention of **Huitema – Burgess – Hovell** to include the above recited limitations as taught by **Zenchelsky** in order to implement security policy to restrict access to a network to a predetermined set of users. (**Col 2, Lines 5-25**)

**Regarding claim 46, Huitema – Burgess – Hovell – Zenchelsky** teaches,

a filtering rule setup section for providing an interface for editing the predetermined rules. (**Col 4, Lines, 23-41**)

### ***Conclusion***

**Examiner's Note:** Examiner has pointed out particular reference contained in the prior arts of record in the body of this action for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and Figures may

apply as well. It is respectfully requested form the applicant, in preparing the response, to consider fully the entire references as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOEL BEHARRY whose telephone number is (571)270-5630. The examiner can normally be reached on M-TH 10-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. B./  
Examiner, Art Unit 2446

/Jeffrey Pwu/  
Supervisory Patent Examiner, Art Unit 2446

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